Medical History

Black Contributions to the Early History of Western Medicine: Lack of Recognition as a Cause of Black Under-Representation in US Medical Schools

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During several millenia, blacks in ancient Egypt made numerous contributions to medicine and were acknowledged as the inventors of the art of medicine. They produced the earliest physicians, medical knowledge, and medical literature. They contributed to the development of medicine in ancient Greece. Ancient writers, including Herodotus, Isocrates, and Diodorus, affirm this. Modern presentations of ancient medicine, however, deprive blacks of the knowledge of their early contributions to medicine by ignoring or subtly misrepresenting the black identity of the ancient Egyptians. Blacks are currently under-represented in US medical schools. It is proposed that the recognition of the contributions of blacks to the early history of Western medicine would inspire black students to study medicine.

Concern has been expressed about the need to increase black representation in the medical profession.[1-3]

It is evident that the correction of this black under-representation will require affirmative action programs developed for high school students as opposed to college and medical school students.[2] For a reason to be considered here, many young American blacks lack confidence in their mathematical and scientific ability and display disinterest in scientific, premedical subjects.[4] It is probable that the interest in medicine among young blacks would increase if the contributions of blacks to the history of medicine were more widely known and included in general education. Knowledge of the successes of other blacks in medicine would serve as an inspiration to young blacks to qualify themselves to enter the profession. However, if the young black student in search of such inspiration were to review existing books and periodicals on the history of medicine, he or she would gain the impression that blacks have had little success in medicine and had contributed nothing to its long and exciting history. This impression, which most of the literature of the history of medicine creates, is historically false. Blacks entered, or more accurately, began the drama of Western medicine where one would suspect—in Africa.

The early African people known today as the ancient Egyptians lived along the Nile and called their nation Kmt. In ancient Egyptian script, called hieroglyphs, the word Kmt means black village, black city, or, in modern parlance, black community.[5] It is written with four signs: the sign for black which has the phonetic value of "k" (a crocodile skin), the sign for "m," the sign for "t," and the sign for city, village or community (two intersecting roads). Thus, this discussion will consider three major contributions made to the early history of Western medicine by the ancient people of Kmt or, literally, of the black community. (1) They produced the world's first physicians who for millenia enjoyed the reputation of being the most skilled in the world. (2) They produced the world's first medical knowledge and literature. (3) They influenced and contributed to Hippocrates, the Hippocratic tradition, and the development of medicine in ancient Greece. It is proposed that knowledge of these African accomplishments by the young people of African origin in the United States would increase their interest in medicine as well as their confidence in their ability to study medicine.

The first king of Egypt was Menes (3200 BC). According to Manetho (300 BC), Menes had a son, Athothis, who also became king, ruled for 27 years, practiced medicine, and wrote books on anatomy.[6] Unfortunately, these books have never been found. It is uncertain who was the first physician in history. However, if Manetho is to be

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believed, one of the earliest physicians, if not the first, known to history by name was the versatile author, anatomist, and African king, Athothis.

Even if the anatomy books allegedly written by Athothis are never found, a little knowledge of hieroglyphs is convincing evidence that the Egyptians at a very early date knew considerable gross human and animal anatomy. Many of the signs which represent consonants, vowels, things, and concepts are well-reproduced animals and parts of anatomy. Graphical reproduction of anatomical parts requires knowledge of anatomy. This is also true of sculpture and embalming which, as is well known, they also practiced. Anatomical parts for which there were signs include: the pupil of the eye, the cornea, the heart, the trachea, the lungs, the vertebral column, the long bones, the brain, the meninges, the spinal cord, the ribs, the intestines, the spleen, the male and female genitals, the uterus, and, possibly, the kidney.[5]

Notwithstanding, Athothis mentioned by Manetho, the African multigenius Imhotep is usually regarded as the first physician in history. He lived about 2980 BC during the reign of Pharoah Zoser of the Third Dynasty. As a member of the pharoah's court he was an architect, scribe, priest, and administrator as well as a physician. He designed the step pyramid at Saqqara. Over the centuries, Egyptians in need of healing flocked to shrines and temples erected in his honor. By 525 BC, he had become a full deity. In hieroglyphs his name means "to come in peace." An inscription to the deified, healing Imhotep reads: "Turn thy face towards me, my lord Imhotep, son of Ptah. It is thou who dost work miracles and who are beneficent in all thy deeds."[7]

Medical historians generally recognize the importance of Imhotep but do not comment on his race. According to Osler, he was "the first figure of a physician to stand out clearly from the mists of antiquity."[8] Sigerist introduces Imhotep as the architect of the step pyramid of Saqqara: "It is the oldest monument of hewn stone known to the world, and it was built by a man of genius, Imhotep, the first universal scholar, architect, engineer, statesman, sage, and physician."[9] Ackerknect also acknowledges the priority and importance of Imhotep but, as Sigerist, makes no mention of his race.[10]

The early Greeks knew Imhotep as Imouthes. They identified him with their later god of healing, Aesclepios. In early Christian Rome, Imhotep was identified with Jesus. Jesus replaced Imhotep, who was always represented as black. Massey writes concerning this representation:

> Jesus, the divine healer, does not retain the black complexion of Iu-em-hetep in the canonical Gospels, but he does in the Church of Rome when represented by the little black bambino. A jewelled image of the child-Christ as a blackamoor is sacredly preserved at the headquarters of the Franciscan order . . . to visit the sick, and demonstrate the supposed healing power of the Egyptian Aesculapius thus Christianized.[11]

The few modern blacks who know about Imhotep still gain inspiration from him. He is the first personality discussed in Rogers' *World's Great Men of Color*.[7] In the middle 1950s black American physicians organized to combat racial discrimination in American hospitals and health care. They held a series of national conferences which they called the Imhotep Conferences.[12] By naming the conferences after Imhotep, the participants gave honor to his memory but also added cogency to their agitation. They correctly perceived the illogic of discrimination against physicians and patients because of their African origin when the Father of Medicine was of African origin.

In his biography of Imhotep, Hurry claims that Aesclepios, the Greek God of Medicine and present symbol of medicine in the western world, has usurped this position from Imhotep.[13] The claim can as well be made that Hippocrates (400 BC) has usurped the position of Father of Medicine from the African, Imhotep. More will be said about the relationship of Hippocrates to the blacks of Egypt.

Because the title of physician is not associated with Imhotep's name until "very late texts," Ghalioungui doubts that Imhotep was a physician.[14] He gives the distinction of having been the first physician in history to Hesy-Re (2600 BC). Hesy-Re was a scholar, a scribe, and Chief of Dentists and Physicians to the pyramid builders of the Third Dynasty.[15] Majno reproduces a panel showing Hesy-Re seated with the scribe's palette, ink container, and reed pen suspended on his shoulder.[16] Not keeping with the common Egyptian practice of wearing a head cloth or shaving the head bald for cleanliness, Hesy-Re reveals his woolly "Afro" hair. Considering the importance of writing to medicine today, it is not surprising, as the evidence supports, that the art of medicine developed first in Africa where the art of writing also developed at a very early date, if not the earliest. A conservative estimate of the date of appearance of east African hieroglyphs is 3500 BC. The material on which writing was performed was the processed African papyrus plant. The word paper derives from papyrus. Majno remarks that "papyrus probably influenced the history of medicine more than any ancient drug."[16]

Ghalioungui also gives us the name of probably the first woman physician, Peseshet, a "chief" physician. For a documented, complete review of ancient Egyptian medicine, Ghalioungui is invaluable. However, he unfortunately maintains the modern tradition of never commenting on the race of the ancient Egyptians and of implying that they were not black. To say "modern tradition" is correct since this was not the practice of ancient writers on the Egyptians. More will be said about one of these important ancient writers later. In his book, Ghalioungui makes one reference to "Negroes" in a comment about hemoglobin S and resistance to malaria.[14] Since he makes a distinction between "Negroes" and the subject of his book, ie, the ancient Egyptians, the obvious implication is that the Egyptians were not "Negroes," ie, not black. Sigerist implies the same by making a similar, incidental distinction between "Negroes" and the ancient Egyptians in a discussion of circumcision.[9]

It has been shown that blacks have contributed to the history of medicine by giving to the world its first physicians. Another contribution was that of producing the world's first medical knowledge and literature. When considering the invention of medicine in his essay "On Ancient Medicine," Hippocrates, although he does not say so, is referring to Egyptian medicine. He argues that the first medical knowledge was dietetics.[17] Dietetics was an early, major part of Egyptian medicine. The Greeks knew this also. Herodotus (450 BC) writes that "they (the Egyptians) have a persuasion that every disease to which men are liable is occasioned by the substances whereon they feed."[18] For Hippocrates, ancient medicine was Egyptian medicine. Hippocrates notes

that dietetics may not qualify as distinctive medical knowledge since all people who survive must discover it if they do not already know it. However, because Hippocrates knew of the priority of Egyptian medicine and its emphasis on dietetics, it is not surprising that he called dietetics the first medical knowledge. Galen (200 AD), who devotedly continued Hippocratic teachings, is simply expressing the belief of his Master when he writes "the invention of medicine was the experiences of the Egyptians."[19]

Ancient Egyptian medicine included more than dietetics. This we know from the surviving, translated medical papyri. These documents represent the oldest medical knowledge and literature. Two of the most important among the several medical papyri include the Ebers papyrus[20] (1500 BC) and the Edwin Smith papyrus[21] (original 2600 BC). The latter is kept at the New York Academy of Medicine. The medical papyri include a considerable share of magic and religion but also contain anatomy, herbal pharmacology, pathology, physical diagnosis, and what today would be called scientific medicine. The Ebers papyrus contains chapters on intestinal disease, helminthiasis, ophthalmology, dermatology, gynecology, obstetrics, pregnancy diagnosis, contraception, dentistry, and the surgical treatment of abscesses, tumors, fractures, and burns. It also contains a section on the movement of the heart, the pulse, and diagnostic percussion. Ghalioungui makes the following assessment of the Edwin Smith papyrus:

> In fact, the Edwin Smith papyrus proved the existence of an objective and scientific medicine, devoid of theories and magic, except in one case, and based on the attentive and repeated observation of the patient, on bedside experience, and on a hitherto unsuspected knowledge of anatomy.[14]

J. H. Breasted, the translator of the Edwin Smith papyrus, attributes its authorship to Imhotep. Majno appraises the medical knowledge of the Egyptians as revealed in the papyri:

> (they) produced some excellent anatomo-clinical correlations; probably the first tapes and sutures; the beginnings of hemostasis by cautery; the beginnings of antisepsis with copper salts . . .[16]

Before the translation of the medical papyri, Herodotus informed us of the practice of scientific, although nonexperimental, observation in Egypt:

> The Egyptians have also discovered more prognostics than all the rest of mankind besides. Whenever a prodigy takes place, they watch and record the result; then, if anything similar ever happens again, they expect the same consequences.[18]

He also comments on the medical specialization apparent from the papyri:

> Medicine is practised among them on a plan of separation; each physician treats a single disorder, and no more; thus the country swarms with medical practitioners, some undertaking to cure diseases of the eye, others of the head, others again of the teeth, others of the intestines, and some those which are not local.[18]

In addition to producing the earliest physicians, medical knowledge, and medical literature, there is a third important contribution of blacks to the ancient history of medicine. This contribution blacks made to Western medicine through their influence on Greek medicine. Wilson,[22] Saunders,[23] Luth,[19] Ghalioungui,[24] and others have noted the strong influence of Egyptian medicine on the development of Greek medicine. However, because they do not discuss the black identity of the ancient Egyptians, they miss the full significance and relevance of the ancient Egyptian-Greek relationship to the modern world.

Generally speaking, the Egyptian arts and sciences influenced the development of the Greek arts and sciences. Appreciation of the working of this relationship is necessary to understand the specific case of medicine. Also, in ancient times as today the development of medicine was linked to the concomitant development of the arts and, especially, the sciences. Herodotus writes that the following came into Greece from Egypt: "almost all the names of the gods,"[18] "solemn assemblies, processions, and litanies to the gods,"[18] astrology,[18] geometry,[18] the correct calendar, and astronomy.[18,25] Many of the well-known Greek philosophers and scientists went to Egypt to be educated and transported their acquired knowledge upon returning to Greece. These include Thales (600 BC), Solon (575 BC), Pythagorus (550 BC), Plato (375 BC), Eudoxus of Cnidus (360 BC) and others. This we are told by Isocrates[26] (400 BC), Diodorus Siculus[27] (50 BC), Strabo[25] (20 AD), Josephus[28] (75 AD), Plutarch[29] (100 AD), Diogenes[30] (200 AD), and Iamblichus[31] (300 AD). James,[32] ben-Jochannan,[33] and Christian[34] give complete, modern treatments of the Egyptian influence on the Greek philosophers. With the exception of Eudoxus, who was a physician, as well as a mathematician and astronomer, these sources are more informative about the travels and education of Greek philosophers than physicians. One of these philosophers, Pythagorus, played a major role in early Greek medicine which will be discussed here. It is reasonable to assume that many Greek physicians as well as philosophers studied in Egypt. Galen, who himself studied in Egypt, supports this assumption.[14]

Despite the absence of sources to affirm that Hippocrates studied in Egypt, there is ample evidence that Egypt directly and indirectly influenced him. Luth and Sudhoff support that the medical school at Cos with which he was affiliated was a branch of the Egyptian medical schools.[19] There are portions of the Hippocratic writings which are textual reproductions of Egyptian medical papyri. These include methods for the reduction of fractures of the clavicle and dislocation of the mandible.[14]

According to Hippocratic teaching, disease resulted from the imbalance of the four bodily humors: black bile, yellow bile, phlegm, and blood. Health was thought to be the balance or harmony of the bodily humors. The four humors represented physiologic opposites and were depicted on the Diagram of Opposites in symmetrical relation to the fundamental opposites of nature, ie hot (or fire), cold (or earth), moist, and dry.[16] According to Diodorus, the concept of the fundamental opposites of nature is Egyptian.[27] The origin of the concept of the four bodily humors is usually attributed to Hippocrates, but is Mesopotamian according to Sudhoff.[35] The belief in their possession of opposite qualities and the mechanism by which their imbalance produced disease is based on the ancient Theory of Opposites and Harmony. This theory, commonly attributed to Pythagorus, is Egyptian.[32-33]

Pythagorus was a major link through which blacks influenced Hippocrates and Greek medicine. The Egyptian Theory of Opposites and Harmony was adopted by Hippocrates from Pythagoreanism. This influence was indirect and secondhand but certainly real and deserving of recognition. Pythagorus was a disciple of the Egyptian priests

and a disseminator of their teachings and culture among the Greeks.

Edelstein tells us that the principal concepts in the Hippocratic Oath are Pythagorean in origin. Edelstein writes: "Pythagoreanism then remains the only philosophical dogma that can account for the attitude advocated in the Hippocratic Oath."[36] Galimard[37] also traces elements of the Hippocratic tradition to Pythagorus. In addition to its selfless, noble spirit, the following are some of the features shared by the Hippocratic Oath and Pythagoreanism on which Edelstein bases his statement: (1) the division of medicine into dietetics, drugs (pharmacology), and cutting (surgery); (2) the belief in the superiority of dietetics and drugs to cutting; (3) the belief in the maintenance of secrecy among physicians about the Art.

Although Edelstein traces Hippocratic doctrine to Pythagorus, he does not trace the teachings of Pythagorus to the Egyptians. Yet, Pythagorus was a teacher of Egyptian knowledge and culture. Isocrates attributes the discovery of the art of medicine and philosophy to the Egyptian priests. Isocrates informs us that Pythagorus introduced philosophy into Greece after study among these priests. The instruction of Pythagorus included medicine, since, as will be shown, he sought to learn all that the priests knew to teach him. Also, among the ancients, philosophy and medicine overlapped. Isocrates is quoted in full because of his direct bearing on this discussion:

> And the priests, because they enjoyed such conditions of life, discovered for the body the aid which the medical art affords, not that which uses dangerous drugs, but drugs of such a nature that they are as harmless as daily food, yet in their effects are so beneficial that all men agree the Egyptians are the healthiest and most long of life among men; and then for the soul they introduced philosophy's training, a pursuit which has the power, not only to establish laws but also to investigate the nature of the universe.[26]

Shortly following the above, Isocrates mentions Pythagorus and his study in Egypt:

> On a visit to Egypt he (Pythagorus) became a student of the religion of the people, and was the first to bring to the Greeks all philosophy . . .[26]

Some details are known about the life of Pythagorus. He went to Egypt seeking knowledge and wisdom on the advice of the then aging Thales, who admitted that the source of his own (Thales') wisdom was the Egyptians.[31] He brought gifts (three silver flasks) to the Egyptian priests.[30] He was a diligent student who was admired by his African teachers and, during the years of his visit, resided at several temples so as to learn from as many priests as possible.[31] Oenuphis of Heliopolis was one of his teachers.[29] During his several years in Africa (7 according to Diogenes and 22 according to Iamblichus), he learned the Egyptian language.[30,31] Although he may have taught some of his own ideas, this is not supported as he returned to Greece to teach "in a way perfectly similar to the documents by which he had been instructed in Egypt."[31] "Most" of the precepts which he taught he copied from Egyptian hieroglyphic texts.[29] After returning to Greece he went eventually to Croton, Italy where he established a Brotherhood which was an imitation of the Egyptian priesthood in dress,[18] practice, and philosophy.[27,29,32,34] His teachings included medicine and "dominated" instruction at the Greek medical school at Croton.[10,35]

The Egyptian influence on Pythagorus is apparent. It can therefore be asserted that the blacks in Egypt influenced and contributed to Greek medicine, Hippocrates, and the Hippocratic tradition through Pythagorus.

Three major contributions which ancient blacks made to the early history of Western medicine have been presented. Unfortunately, the writing of medical history is such that these contributions to medical history are never presented as the contributions of black people. The subject of the race of the ancient Egyptians is carefully avoided. One is correct in saying "carefully avoided." In this discussion, several modern medical historians have been cited. In the presentation of ancient medicine they all rely heavily in quotation and citation on Herodotus, the Father of History. They never, however, find occasion to include his comments about the physical appearance of the ancient Egyptians. This omission is particularly glaring in the invariable reference to the practice of circumcision in ancient Egypt, a fact of medical importance noted by Herodotus and associated with a comment about race. This writer will depart from the modern tradition and provide the quote here. Herodotus is referring to a colony of people called the Colchians who lived in western Asia near the Black Sea.

> There can be no doubt that the Colchians are an Egyptian race . . . My own conjectures were founded, first, on the fact that they are black-skinned and have woolly hair, which certainly amounts to but little, since several other nations are so too; but further and more especially, on the circumstance that the Colchians, the Egyptians and the Ethiopians are the only nations who have practised circumcision from the earliest times.[18]

In another passage appearing shortly before his discussion of medical specialization in Egypt, Herodotus writes about the origin of the oracle at Dodona, Greece by a mythological talking black dove from Egypt:

> Lastly, by calling the dove black the Dodoneans indicated that the woman was an Egyptian.[18]

Aristotle (350 BC), the Father of Science, makes the same observation as the Father of History, although with insult. Aristotle remarks that the Egyptians and Ethiopians were cowards because of their "excessively black color."[38] Complete treatments of the race of the ancient Egyptians and of the attempt of some modern scholars to conceal or misrepresent it are given by Diop,[39,40] Williams,[41] Jackson,[42] ben-Jochannan,[33,43] and the proceedings of the United Nations sponsored conference.[44]

In conclusion, one may ask what is the value of demonstrating black contributions to the history of medicine? The point has to be made that over the past few centuries through today the contributions of blacks to the history of medicine and to the history of civilization in general have been denied. This denial has been both spoken and unspoken. The influential Scottish philosopher David Hume very clearly expressed it, when in 1753 he wrote:

> I am apt to suspect the Negroes . . . to be naturally inferior to the white. There never was a civilized nation of any other complexion than white, nor even any individual eminent either in action or speculation. No ingenious manufactures amongst them, no arts, no sciences.[45]

It is suggested that the persistence of such false beliefs through today underlies the reason many young black students "lack confidence in their scientific and mathematical ability and display disinterest in scientific, premedical subjects." Finally, knowledge of the contributions of blacks to the history of medicine may inspire young blacks to enter the profession and make further contributions.

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Decrease in Total US Hospitals

In 1974, the total number of hospitals throughout the United States decreased from the 1971 figure of 7,678 hospitals to 7,370. The pattern, however, was reversed for metropolitan areas where there was an overall increase of 150 hospitals.

The number of hospital beds decreased both in the United States as a whole and in metropolitan areas. This decrease was due entirely to a decrease in the number of beds in specialty hospitals.

Of the 3,114 counties, 477 had no hospitals in 1974. Most of these counties without hospitals were located in the South and North Central regions of the United States. About 4.8 million people, or 2.3 percent of the total US population, resided in the 477 counties.

National Center for Health Statistics